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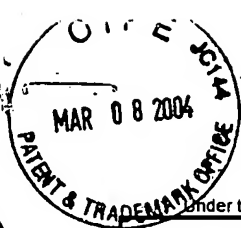
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Inventor(s):

LUCA D'OTTONE

Title of Invention:

A METHOD FOR PURIFYING NITRIC OXIDE

Enclosed is a disclosure of the above-titled invention consisting of 2 sheets of description and 2 sheets of drawings. A check or money order in the amount of \$40 is enclosed to cover the fee (37 CFR 1.21(c)).

The undersigned, being a named inventor of the disclosed invention, requests that the enclosed papers be accepted under the Disclosure Document Program, and that they be preserved for a period of two years.

Signature of Inventor

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03/04/04

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## A Method for purifying Nitric Oxide

By

Luca D'Ottone

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### (1) Background

In 1998, while performing chemical research regarding the reactivity of Nitric Oxide toward the hydroxyl radical, I discovered, reduced to practice and perfected a method and an apparatus for the purification of gaseous Nitric Oxide.

Nitric Oxide is a gas having no appreciable cross section in the UV visible region. Most common impurities for NO are NO<sub>2</sub> and other acidic oxides.

### (2) Apparatus

The Apparatus consist in a series of two filters connected by an inert tubing system, and connected on one side to a collection tank and on another side to the source of impure nitric oxide.

The first filter is kept at a temperature below 0 °C ( $T < 273.15$  K) by a thermostatic bath. Usually is cooled at the temperature of the dry-ice methanol slush.

The first filter is composed by a mixture of hydroxides of alkali and earth alkali metals. Said filter may be ASCARITE (registered trademark).

The second filter is a standard molecular sieve.

I found this apparatus extremely effective and convenient over the prior art.

### (3) Method

The method consist in passing the impure nitric oxide gas from the storage tank through the first and the second filter, and collecting it in a collection bulb usually filled out at a pressure below atmospheric pressure, to avoid possible intake of oxygen gas.

### (4) Results

I found the use of said method and said apparatus extremely convenient. I personally tested the purity of the nitric oxide with an optical multi-channel apparatus, and the final product was an extremely refined nitric oxide

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gas. Impurities were estimated to be less than 1 part per million in NO<sub>2</sub>.

(5) References

US patents

5,970,125, 5,914,201, 5,917,850, 5,922,120,

US patent Published applications

20020056289

Other references

Hughes, E.E. *J Chem. Phys.*, 1961, 35, 1531.

(5) Notarization

THIS SECTION IS FOR NOTARIZATION

PRINT SIGNATORY'S FULL NAME

*Luca D'Ottoni*

SIGNATURE (as it will appear on documents)

(NOTARY) I, Ana Milena Gonzalez as a notary public in the State of Florida, certify under the pains and penalty of perjury that I witnessed the signature of the aforementioned signatory Luca D'Ottoni, and the individual's identity was verified, on this date: March 3<sup>rd</sup>, 2004.

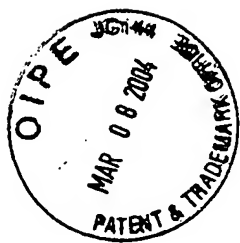
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